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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 09/997,162 | 11/29/2001 | Jerome J. Cuomo | 297/104/2 | 3621 |

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JENKINS & WILSON, PA
3100 TOWER BLVD
SUITE 1400
DURHAM, NC 27707

EXAMINER

MCDONALD, RODNEY GLENN

ART UNIT

PAPER NUMBER

1753

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/997,162

Applicant(s)

CUOMO ET AL.

Examiner

Rodney G. McDonald

Art Unit

1753

-- Th MAILING DATE of this communication appears on the cover sheet with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 May 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-73 is/are pending in the application.
- 4a) Of the above claim(s) 46-54 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-42, 57 and 60-73 is/are allowed.
- 6) ☐ Claim(s) 43-45, 55, 56, 58 and 59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Election/Restrictions

Claims 46-54 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 10.

Applicant's election with traverse of Claims 1-45 in Paper No. 10 is acknowledged. The traversal is on the ground(s) that the prior art overlaps the grouping of claims. This is not found persuasive because the product can be made by another and materially different process such as vapor deposition.

The requirement is still deemed proper and is therefore made FINAL.

This application contains claims 46-54 drawn to an invention nonelected with traverse in Paper No. 10. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 112

Claims 55, 56, 58 and 59 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 55, line 2, "the target cathode" lacks antecedent basis.

Claim 56, line 2, "the target cathode" lacks antecedent basis.

Claim 58, line 2, "the target cathode" lacks antecedent basis.

Art Unit: 1753

Claim 59, line 2, "the target cathode" lacks antecedent basis.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 43-45 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 40, 41, 42 and 56 of copending Application No. 09/998,080 in view of Mikalesen et al. (U.S. Pat. 4,824,544).

This is a provisional obviousness-type double patenting rejection.

Application No. 09/998,080 teach a method of sputtering utilizing a negatively-biased target cathode including a target material in a sealed chamber, applying an operating voltage to the target cathode to produce an electric field within the chamber, providing a magnetron assembly in the chamber to produce a magnetic field within the chamber, providing a negatively-biased, non-thermionic electron/plasma injector assembly between the target cathode and the metallic frame to create an intense plasma proximate to the target cathode, introducing a gas into the chamber to provide

Art Unit: 1753

an environment for generating a plasma medium and causing a portion of the target material to be sputtered and transported through the plasma medium toward the metallic frame. (See Claims 40, 41, 42 and 56)

The difference between Application No. 09/998,080 and the present claims is that the use of a substrate holder is not discussed.

Mikalesen et al. teach a workpiece holder 42 for supporting a substrate in a magnetron sputtering apparatus. (See Mikalesen et al. Column 5 lines 14-18)

The motivation for utilizing a substrate holder is that it supports the workpieces to be coated. (Column 5 lines 14-18)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Application No. 09/998,080 by utilizing a substrate holder to support the substrate as taught by Mikalesen et al. because it allows for supporting substrates.

Claims 43-45 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 87-89 of copending Application No. 09/998,024 in view of Mikalesen et al. (U.S. Pat. 4,824,544).

This is a provisional obviousness-type double patenting rejection.

Application No. 09/998,024 teach depositing films utilizing a sputtering apparatus having a non-thermionic electron/plasma injector assembly disposed in a reaction chamber to produce a film and introducing a gas into the reaction chamber to produce a film.

Art Unit: 1753

The differences between Application No. 09/998,024 and the present claims is that the details of the sputtering apparatus is not discussed.

Mikalesen et al. teach the details of the sputtering apparatus including providing a target in a sealed chamber, providing a substrate holder, applying a voltage to the target, and providing a magnetron. (See Abstract; Column 4 lines 4-40; Column 14-18; Column 6 lines 15-17)

The motivation for providing a sputtering apparatus is that it allows for depositing films for improved lift-off characteristics. (Column 3 lines 19-21)

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Application No. 09/998,024 by utilizing target in a sealed chamber, providing a substrate holder, applying a voltage to the target, and providing a magnetron as taught by Mikalesen et al. because it allows for production of films with improved lift-off characteristics.

Allowable Subject Matter

Claims 1-41, 42, 57, 60 and 61-73 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 1-41 and 61-73 are allowable over the prior art of record because the prior art of record does not teach the claimed subject matter including the non-thermionic electron /plasma injector assembly.

Claims 42, 57 and 60 are allowable over the prior art of record because the prior art of record does not teach the claimed structure of the injector assembly.

Response to Arguments

Applicant's arguments filed 5-6-03 have been fully considered.

Applicant's arguments are deemed persuasive with respect to the rejections made in the last Office Action. Upon further consideration the Examiner deemed it necessary to raise new obviousness type double patenting rejections which are made above. New 35 U.S.C. 112 2nd paragraph rejection are made as well. The Election/Restriction requirement is also addressed.

This action will be made NON-Final based on the new obviousness double patenting rejections above.

Art Unit: 1753

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rodney G. McDonald whose telephone number is 703-308-3807. The examiner can normally be reached on M- Th with Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam X. Nguyen can be reached on 703-308-3322. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9310 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Rodney G. McDonald
Primary Examiner
Art Unit 1753

RM
July 22, 2003